

AMENDMENTS TO THE DRAWINGS

In accordance with U.S. Patent and Trademark Office practice, proposed drawing changes as REPLACEMENT SHEETS are attached, wherein Applicant proposes to amend the drawings in the above-identified application as follows:

Please amend Figure 7 by replacing " ϕT_{n+1} " with -- ϕR_{n+1} --.

Please amend Figure 7 by replacing " ϕR_{n+1} " with -- ϕT_{n+1} --.

Please amend Figure 18 by replacing "PRIOR ART" with -- RELATED ART --.

No new matter has been added. Approval is earnestly requested.

REMARKS

Reexamination in light of the following remarks is respectfully requested. *No new matter has been added.*

New non-final Office Action

At least for the following reasons, if the allowance of the claims is not forthcoming at the very least and a new ground of rejection made, then a **new non-final Office Action** is respectfully requested.

Claim rejections

i. Paragraph 4 of the Office Action indicates a rejection of claims 16-18 and 20-22 under 35 U.S.C. 103 as allegedly being unpatentable over U.S. Patent No. 5,898,168 (Gowda) in view of U.S. Patent No. 6,674,470 (Tanaka) and in further view of U.S. Patent No. 5,187,583 (Hamasaki).

A. Claims 16, 18 and 20-22.

While not conceding the propriety of this rejection and in order to advance the prosecution of the instant application, claims 16, 18 and 20-22 have been canceled.

B. Claim 17.

While not conceding the propriety of this rejection and in order to advance the prosecution of the instant application, claim 17 has been placed into independent form.

Claim 17 is drawn to a solid state imaging element, comprising:

a plurality of pixels arranged in a matrix, each of which has a photoelectric conversion element, a transfer switch for transferring charge stored in said photoelectric conversion element, a charge store part for storing charge transferred by said transfer switch, a reset switch for resetting said charge store part, and an amplifying element for outputting a signal in accordance with a potential of said charge stored in said charge store part;

wherein a threshold voltage of said amplifying element is reduced in relation to remaining transistors of each pixel. and further wherein a diffusion region that is connected to a power source is laid out to be physically adjacent to the photoelectric conversion element in order to provide an overflow path,

wherein said transfer switch is an enhancement type transistor.

1. U.S. Patent No. 5,898,168 (Gowda) fails to disclose, teach or suggest a transfer switch being an enhancement type transistor.

Gowda arguably discloses that the pixel circuit of cell 30 eliminates the separate row selection transistor by employing FET 22 to perform both a charge transfer function and a pixel selection function (Gowda at column 4, lines 21-23).

However, Gowda fails to specify FET 22 being either an enhancement type transistor or a depletion type transistor.

Thus, Gowda fails to disclose, teach or suggest FET 22 being an enhancement type transistor.

2. U.S. Patent No. 6,674,470 (Tanaka) fails to disclose, teach or suggest a transfer switch being an enhancement type transistor.

Tanaka arguably discloses that as shown in FIG. 7, the unit cell of the MOS-type solid state imaging device according to the first embodiment comprises two photodiodes 92a and 92b adjacent in the vertical direction; two read-out transistors 93a and 93b for selecting detection signals from the photodiodes 92a and 92b as the output from the unit cell; and an output circuit 98 for outputting, from the unit cell, the output signal selected by the read-out transistors 93a and 93b (Tanaka at column 7, lines 37-47).

However, Tanaka fails to specify transistors 93a and 93b being either an enhancement type transistor or a depletion type transistor.

Thus, Tanaka fails to disclose, teach or suggest transistors 93a and 93b being an enhancement type transistor.

3. U.S. Patent No. 5,187,583 (Hamasaki) fails to disclose, teach or suggest a transfer switch being an enhancement type transistor.

Hamasaki is silent as to the presence of a transfer switch.

But if a transfer switch is disclosed within Hamasaki, that reference fails to specify a transfer switch being either an enhancement type transistor or a depletion type transistor.

Thus, Hamasaki fails to disclose, teach or suggest a transfer switch being an enhancement type transistor.

Withdrawal of this rejection and allowance of the claims is respectfully requested.

ii. Paragraph 5 of the Office Action indicates a rejection of claims 19 and 23 under 35 U.S.C. 103 as allegedly being unpatentable over U.S. Patent No. 5,886,659 (Pain) in view of U.S. Patent No. 6,674,470 (Tanaka) and in further view of U.S. Patent No. 5,187,583 (Hamasaki).

A. Claims 19 and 23.

While not conceding the propriety of this rejection and in order to advance the prosecution of the instant application, claims 19 and 23 have been canceled.

Withdrawal of this rejection and allowance of the claims is respectfully requested.

Newly added claims

iii. Claims 25-33 are dependent upon claim 24.

Claim 24 is drawn to a solid state imaging element comprising:

a transfer switch having a source being a floating diffusion and a drain being a photodiode;

a reset switch having a source being said floating diffusion and a drain being electrically connected to a vertical selection line, said reset switch being a depression type transistor.

Either individually or as a whole, U.S. Patent No. 5,898,168 (Gowda), U.S. Patent No. 5,886,659 (Pain), U.S. Patent No. 6,674,470 (Tanaka) and U.S. Patent No. 5,187,583 (Hamasaki) **fail** to disclose, teach, or suggest a solid state imaging element **wherein the reset switch is a depression type transistor.**

Allowance of the claims is respectfully requested.

Official Notice

There is no concession as to the veracity of Official Notice, if taken in any Office Action.

An affidavit or document should be provided in support of any Official Notice taken. 37 C.F.R. §1.104(d)(2), M.P.E.P. §2144.03. See also, *Ex parte Natale*, 11 USPQ2d 1222, 1227-1228 (Bd. Pat. App. & Int. 1989)(failure to provide any objective evidence to support the challenged use of Official Notice constitutes clear and reversible error).

Extensions of time

Please treat any concurrent or future reply, requiring a petition for an extension of time under 37 C.F.R. §1.136, as incorporating a petition for extension of time for the appropriate length of time.

Fees

The Commissioner is hereby authorized to charge any deficiency in fees filed, asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm).

The Commissioner is hereby authorized to charge all required fees, fees under 37 C.F.R. §1.17, or all required extension of time fees.

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Conclusion

This response is believed to be a complete response to the Office Action.

Applicants reserve the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

For the foregoing reasons, all the claims now pending in the present application are allowable, and the present application is in condition for allowance.

Accordingly, favorable reexamination and reconsideration of the application in light of the remarks is courteously solicited.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone Brian K. Dutton, Reg. No. 47,255, at 202-955-8753.

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Respectfully submitted,

By 

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Attachments